

Date: Wed, 14 Jul 93 20:38:55 PDT  
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>  
Errors-To: Info-Hams-Errors@UCSD.Edu  
Reply-To: Info-Hams@UCSD.Edu  
Precedence: Bulk  
Subject: Info-Hams Digest V93 #856  
To: Info-Hams

Info-Hams Digest                      Wed, 14 Jul 93                      Volume 93 : Issue    856

Today's Topics:

America's Technology Store (was: new Radio Shack HT)  
    Brit rallies  
Communities that unduly restrict Amateur Radio operations  
    Converting 49 mhz stuff, and 6-meters questions  
    Digital FM through TV Cable, How?  
    Goofy cartoons  
    QSL address  
    Recharging ALKALINE batteries  
    rsgb gb2rs news 11th july  
    swg table  
    TS-50  
    What does it take to fry RG-223  
    Where is cheapest place to buy 1200 MHz module?

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>  
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

-----  
Date: Wed, 14 Jul 93 14:26:25 GMT  
From: csus.edu!netcom.com!netcomsv!bongo!skyld!janguis@decwrl.dec.com  
Subject: America's Technology Store (was: new Radio Shack HT)  
To: info-hams@ucsd.edu

In article <1993Jul13.165106.1248@kocrsv01.delcoelect.com>  
c2xjcb@kocrsv01.delcoelect.com writes:

> I'm sure it was just a case of mis-understanding what I said, but last  
> night I went into Radio Shaft to buy a 6V lantern battery

Sadly, I have the same problems trying to buy anything at Henry Radio in West Los Angeles. I'm afraid that some of thier employees are even too stupid for Radio Shack or the Department of Motor Vehicles.

The bright side is that they \*never\* ask me for a license. I guess the logic is that if I have money and I'm inside the store, I must be OK.

J. Angus: jangus@skyld.tele.com -- "Als ik Kan", Gustav Stickley  
US Mail: PO Box 4425 Carson, CA 90749-4425 1 (310) 324-6080

-----  
Date: 14 Jul 93 15:50:39 GMT  
From: ogicse!uwm.edu!math.ohio-state.edu!cs.utexas.edu!gerald@cc.utexas.edu!  
emx.cc.utexas.edu!not-for-mail@network.UCSD.EDU  
Subject: Brit rallies  
To: info-hams@ucsd.edu

dave@llondel.demon.co.uk (David Hough) replies:

>In article <CA5MpC.K2@brunel.ac.uk> Alan.Holmes@brunel.ac.uk (Alan J Holmes)  
writes:

>>

>> Would it be at all possible for the entry (and other)  
>> fees for these rallies to be published in advance. It  
>> would be useful to know in advance whether you can afford  
>> to go.

>There are implications with mentioning money on GB2RS broadcasts - I know it  
>has been done in the recent past but I was once told that \*all\* mention of  
>admission prices etc was removed from the packet version of the news once  
>(by a member of HQ staff, not Ted). Not sure what the current RA line on  
>it is now though.

Apologies if you (not Alan, whoever asked) knew this already (or if I'm wrong), but the rallies referred to in the RSGB (sorry, rsgb) bulletins are not car rallies in the sense that they are understood here. I think they are what would be called Hamfests here, and I would expect that the admission price is trivial. At least, it is once you have decided to cross the Atlantic in order to go to one...

I worked someone at the Longleat rally a few days ago, and he was running a portable station set up in the grounds, he wasn't whizzing around at high speed in a car.

But perhaps I have this all wrong - it has been known.

Derek Wills (AA5BT, G3NMX)  
Department of Astronomy, University of Texas,  
Austin TX 78712. (512-471-1392)  
oo7@astro.as.utexas.edu

-----  
Date: 14 Jul 93 16:48:37 GMT  
From: psinntp!psinntp!arrl.org@RUTGERS.EDU  
Subject: Communities that unduly restrict Amateur Radio operations  
To: info-hams@ucsd.edu

In rec.radio.amateur.misc, alanb@sr.hp.com (Alan Bloom) writes:

>  
>I think your best bet is to write ARRL headquarters and get the names  
>of the local clubs in the areas you are interested in. Call some local  
>club members and ask what problems they have had with the local  
>authorities.  
>

That's the difficult way to obtain the info. Difficult for the caller  
who has to wait while we go searching, difficult for us who have to DO  
the searching.

The EASY way is for someone to simply e-mail me with a request for  
the clubs in his/her area. In turn, I will email the list right  
back to the person asking. Seems simple.

I merely need:

1. A specific request for the specific free service wanted and
2. Some idea of where the person is located so I can serve him accurately  
and promptly.

			Deputy Manager, Field Services, ARRL.	
		___	The ARRL Amateur Radio Emergency Service, the ARRL	
	uck		urder	National Traffic System, The Amateur Auxiliary to
-----			the FCC's Field Operations Bureau, the ARRL	
	KY1T		Field Organization and the ARRL Monitoring System.	

-----  
lhurder@arrl.org Prodigy - MGTS39A, BIX - ARRL,  
MCI Mail - RPALM, MCI Mail - "ARRL", America On Line - "ARRL HQ"  
Compuserve - 70007,3373 (ARRL HQ) -- Genie ARRL.HQ  
-----

Date: Wed, 14 Jul 1993 16:35:50 GMT  
From: rit!cci632!jdc@cs.rochester.edu  
Subject: Converting 49 mhz stuff, and 6-meters questions  
To: info-hams@ucsd.edu

Have any of you attempted converting existing 49 mhz walkie-talkies, cordless phones, etc. to 6-meters? I have an urge to give 6-meters a try, but don't want to spend big \$\$\$.

On a related note: Are there any inexpensive 6-meter transmitter/receiver/tranceiver kits out there? What modes are most common (AM, SSB, CW, FM)? Is very-low-power operation practical?

73's...Jim  
N2VNO

-----  
Date: 14 Jul 93 15:35:17 GMT  
From: psinntp!psinntp!pbs!jernandez@RUTGERS.EDU  
Subject: Digital FM through TV Cable, How?  
To: info-hams@ucsd.edu

In article <21kmlj\$k8o@news.acns.nwu.edu>, lapin@casbah.acns.nwu.edu (Gregory Lapin) writes:

> In article <1993Jul8.152406.1@ducvax.auburn.edu> anderjh@ducvax.auburn.edu writes:

>>There is a service in Birmingham, AL called DMX Digital Music Express which >>is delivered through the Cable for Cable TV. It has abou>>which can be tuned in on an FM Stereo. Are they really sendin

>  
>

> If I understood the description, the signals can be decoded with an analog > FM stereo tuner - they must be analog signals.

>  
> Greg Lapin KD9AZ

I believe the instructions indicate that the output of the DMX CPT/Decoder can be connected to a standard FM Stereo. The unit is purely digital from the source coding to the channel coding to the modulation. The signals are digitally compressed signals similar to their SEDAT audio signals. They are distributed on satellite to each cable head-end where they are converted to the terrestrial modulation format.

John  
KA2YAP

-----

Date: 14 Jul 1993 15:26:37 -0500  
From: elroy.jpl.nasa.gov!swrinde!cs.utexas.edu!gerald@cc.utexas.edu!  
emx.cc.utexas.edu!not-for-mail@ames.arpa  
Subject: Goofy cartoons  
To: info-hams@ucsd.edu

jangus@skyld.tele.com (Jeffrey D. Angus) says:

>While watching Disney cartoons this morning, one of the episodes  
>was with Goofy as a railroad station master. The cartoon opens with him  
>sitting in front of a telegraph sounder.

>"dah dit dah dit   dah dah dit dah"  
>"dah dit dah dit   dah dah dit dah"  
>"dit"

>Goofy writes the following; "Put magicians trunk on board train."

>Funny, I don't remember seeing \*that\* abbreviation in the handbook.

Reminds me of the (apochryphal?) story of the movie that needed some  
African tribesperson to come over the hill yelling something warlike in  
Swahili, and when the film was distributed later it turned out that he  
guy was saying (in Swahili) "they aren't paying me enough money for this  
part"... (I think Patty N6BIS or perhaps Phil KA9Q told me this in a less  
mangled form).

There is some CW in one of the Tony Hancock BBC shows (no, not the "Radio  
Ham" episode) where he mistakes a ship-to-shore message to "(Mary) Soskins"  
as an SOS signal by hearing only the first three letters of the surname,  
and this is all sent correctly except that the K is sent as an R. Well,  
it's closer than the 'goofy' example above.

The Goon Show (another ancient BBC series that many of us grew up with,  
if that's the right expression) has morse at various places, and it's  
always sending "GDM" - dunno why, but Spike Milligan (who wrote the scripts  
for nearly all the shows) knew morse at the time he was in the Brit army.

Oh well.

Derek Wills (AA5BT, G3NMX)  
Department of Astronomy, University of Texas,  
Austin TX 78712. (512-471-1392)  
oo7@astro.as.utexas.edu

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Date: Wed, 14 Jul 1993 20:51:37 GMT  
From: mentor.cc.purdue.edu!sage.cc.purdue.edu!blumb@purdue.edu  
Subject: QSL address  
To: info-hams@ucsd.edu

In article <wb9omc.742670880@dynamo.ecn.purdue.edu> wb9omc@dynamo.ecn.purdue.edu (Duane P Mantick) writes:

>  
>If anyone out there has the 1993 supplement to the North American callbook,  
>could you email me an address for N5LXJ?  
>

Well, if anyone has ANY recent callbook, could you please email me an address for WB7UUL??????

--

Bill Blum blumb@sage.cc.purdue.edu Purdue University, W. Lafayette, IN  
"Wherever you go....there's always a damn Buckaroo Banzai quote..."

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Date: 15 Jul 93 02:09:59 GMT  
From: ogicse!uwm.edu!math.ohio-state.edu!darwin.sura.net!mojo.eng.umd.edu!  
chuck@network.UCSD.EDU  
Subject: Recharging ALKALINE batteries  
To: info-hams@ucsd.edu

In article <yM0et\*dz3@lemsys.UUCP> clemon@lemsys.UUCP (Craig Lemon VE3XCL) writes:  
>correctly) but kept that covered up in the interest of selling more  
>batteries. It has also been said that these alkalines can only be charged  
>something like 10-20 times whereas NiCds are ~500 times. Alkalines also  
>have a lower internal resistance (suited for running transmitters, RC cars,

Except that alkalines have a MUCH higher internal resistance than Nicads.

>photo flashes etc...) but alkalines have a MUCH higher capacity (ie. D-Cell

This, however is true.

>...

> As a side note, my schools A.R.C. has these "alkaline" batteries  
>that were used as backup in commercial radio installations. I believe that

Once upon a time, Nicads were called "Rechargable Alkaline" batteries. This is because they use a Potassium Hydroxide electrolyte (KOH).

----

Chuck Harris - WA3UQV

chuck@eng.umd.edu

-----  
Date: Wed, 14 Jul 1993 18:05:48 +0000  
From: korie!news2me.EBay.Sun.COM!seven-up.East.Sun.COM!uk-usenet.uk.sun.com!  
demon!llondel.demon.co.uk!dave@ames.arpa  
Subject: rsgb gb2rs news 11th july  
To: info-hams@ucsd.edu

In article <CA5MpC.K2@brunel.ac.uk> Alan.Holmes@brunel.ac.uk (Alan J Holmes)  
writes:

>  
> Would it be at all possible for the entry (and other)  
> fees for these rallies to be published in advance. It  
> would be useful to know in advance whether you can afford  
> to go.

There are implications with mentioning money on GB2RS broadcasts - I know it  
has been done in the recent past but I was once told that \*all\* mention of  
admission prices etc was removed from the packet version of the news once  
(by a member of HQ staff, not Ted). Not sure what the current RA line on  
it is now though.

Dave

\*\*\*\*\*  
\* G4WRW @ GB7WRW.#41.GBR.EU AX25 \* You think \*you\* have problems? \*  
\* dave@llondel.demon.co.uk Internet \* What do you do if you \*are\* \*  
\* g4wrw@g4wrw.ampr.org Amprnet \* a manically depressed robot?? \*  
\*\*\*\*\*

-----  
Date: 15 Jul 93 08:34:45 +1200  
From: agate!howland.reston.ans.net!wupost!waikato.ac.nz!jarman@ames.arpa  
Subject: swg table  
To: info-hams@ucsd.edu

Standard Wire Gauge  
(British as apposed to the A.S.G. )

SWG DIAM  
inch  
7/0 0.500  
6/0 0.464  
5/0 0.432

4/0 0.400  
3/0 0.372

2/0 0.348

0 0.324

1 0.300

2 0.276

3 0.252

4 0.232

5 0.212

6 0.192

7 0.176

8 0.160

9 0.144

10 0.128

11 0.116

12 0.104

13 0.092

14 0.080

15 0.072

16 0.064

17 0.056

18 0.048

19 0.040

20 0.036

21 0.032

22 0.028

23 0.024

24 0.022

25 0.020

26 0.018

27 0.0164

28 0.0148

29 0.0136

30 0.0124

31 0.0116

32 0.0108

33 0.0100

34 0.0092



35 0.0084  
36 0.0076  
37 0.0068  
38 0.0060  
  
39 0.0052  
40 0.0048  
41 0.0044  
  
42 0.0040  
43 0.0036  
44 0.0032  
  
45 0.0028  
46 0.0024  
47 0.0020  
  
48 0.0016  
49 0.0012  
50 0.0010

-----  
Date: 14 Jul 93 23:27:28 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: TS-50  
To: info-hams@ucsd.edu

Howard VK3AYV says:

I read in "Radio Communication" the Rx leaves a little bit to be desired & the 3rd order intermod products appeared to be quite poor at only -16dB on 14 MHz!! Ranging to best case of about -24dB on the other bands.

I say:

Thats the 3rd order INTERCEPT power, i.e the power of the input signal which gives 3rd order spurious signals in the receiver the same level as first order tones.

Imagine the following test setup:

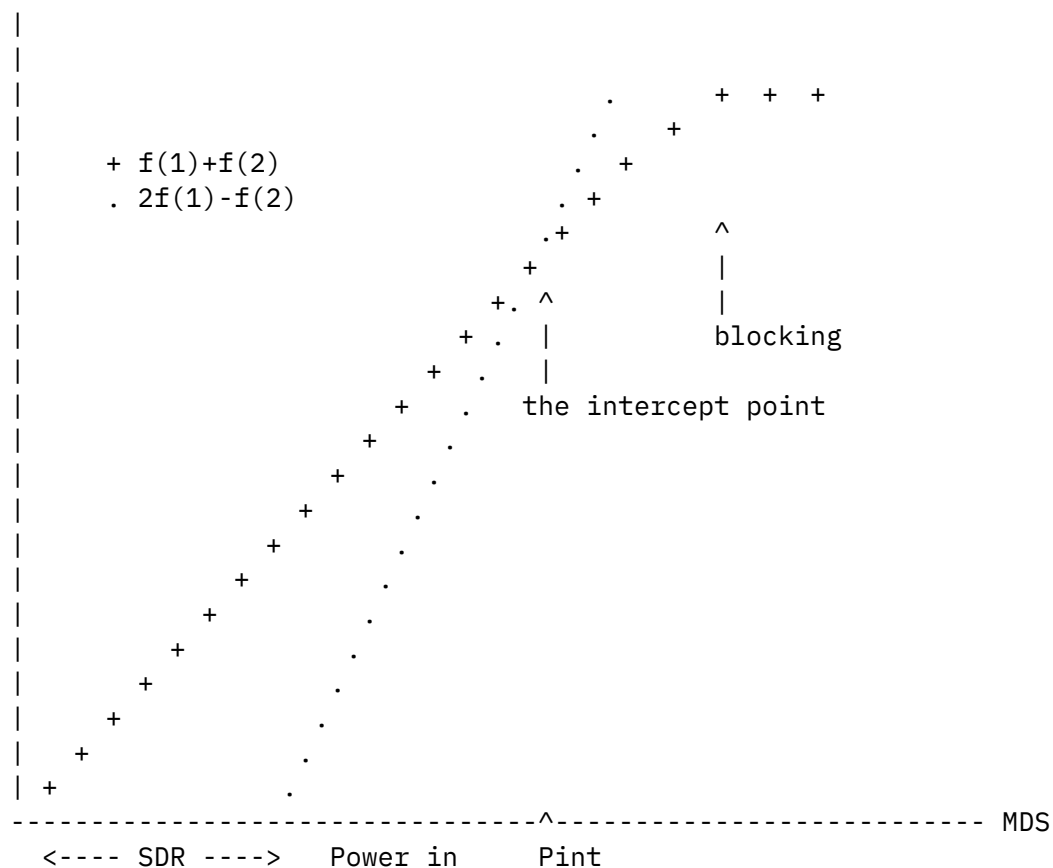
A two tone gnerator outputs two non-harmonically related tones,  $f(1)$  and  $f(2)$ , which differ in frequency by some fixed amount (they'll say in the test: it'll be 20KHz, or 50KHz or 100kHz difference). You then increase the power of the sum of the two tones and measure the output from the device under test at two frequencies: one of the input tones

(say  $f(1)$ ) and one of the third order terms ( $2f(1) - f(2)$  or  $2f(2) - f(1)$ ). The third order signals increase as the cube of the power input, the first order signals go as the power input.

Imagine plotting these two signals on a log/log graph (measure the power in dBm):

1. power out of  $f(1)$  vs power in of  $f(1) + f(2)$
2. power out of a third order IMD signal,  $2f(1) - f(2)$ , vs power in of  $f(1) + f(2)$

Like so:



MDS is the Minimum Detectable Signal (the power in the gives a 3dB increase in the noise floor of the RX).

SDR is the spurious free dynamic range: the difference between the input power which just causes spurious signals to rise above the MDS and the MDS itself.

At high enough power the RX saturates -- this is when blocking is said

to occur (when the output signal increases by less than 1dB of the input signal -- 1dB blocking point).

I haven't seen a RadComm review in a long time but I imagine they use all the above terms (the ARRL does it its excellent reviews (good job, Ed!)).

This also means that the SDR, MDS and intercept point are all related by:

$$P_{int} = MDS + 3/2 \text{ SDR}$$

(well if I did my geometry right -- this is done without a net!).

So lets say that the MDS of the TS50 is -135dBm (just a guess -- its in the right ballpark). Then for an intercept of -16dBm the spurious free dynamic range is 79dB. Not spectacular, but not completly useless. On the other bands the dynamic range will be 85dB.

The ARRL handbook has a good writeup on this.

Kevin Purcell N7WIM / G8UDP  
a-kevinp@microsoft.com  
Sit simplex, stulte!

-----  
Date: 15 Jul 93 00:57:42 GMT  
From: ogicse!hp-cv!hp-pcd!hpcvsnz!tomb@network.UCSD.EDU  
Subject: What does it take to fry RG-223  
To: info-hams@ucsd.edu

Gary Coffman (gary@ke4zv.uucp) wrote:

(regarding using RG-223 to feed a high-SWR load from a 150W HF transmitter:)

: small cable. Of course the SWR is extreme. Let's look at a more  
: typical worst case SWR of 10:1. This is a value that may be  
: experienced in practice with a random flattop antenna.

:  $E_{max} = \sqrt{150 \times 50 \times 10} = 273.86$   
:  $E_{min} = 273.86 / 10 = 27.39$   
:  $I_{max} = 150 / 27.39 = 5.48$  amperes

: Now cables have somewhat different characteristics at RF than they  
: do at DC. Dielectric losses are proportional to  $E_{max}$ , and skin effect  
: conduction losses are proportional to  $I_{max}$ . So a cable with SWR will  
: have two different regions of "hot spots". At  $E_{max}$  the dielectric  
: will be hot, and at  $I_{max}$  the conductors will be hot. We can't just  
: go to the copper wire tables for conduction losses because RF losses  
: are skin effects and the RF skin depth is frequency dependent. Dielectric

: losses are also frequency dependent. Our best guide is the db loss  
: per 100 foot value that the manufacturer usually gives us. We can then  
: use the curves for excess loss due to SWR in the handbook to give us  
: an idea of the amount of power the cable will have to absorb. That  
: power can then be apportioned based on Emax/Emin to show what the  
: hot spots will be like. In your case, the cable will handle the power.

Hmmm. Well, that may depend on how conservative you are.

"Reference Data for Radio Engineers" has a chart of max power ratings of various RG cables in the 10-3000MHz range. RG-58, which will have essentially the same losses, and is constructed with the same dielectric, as RG-223, is rated at just over 300 watts at 30MHz. This assumes 1:1 SWR, ambient temp of 40C, max inner conductor temp of 80C. The 5.48 amps is the same current you get at 1500 watts on a 1:1 50 ohm line. So I suspect the heating with 150 watts and 10:1 SWR at 30MHz on this line could give you some problems. Admittedly, the rating is fairly conservative, but you really should try to get the SWR down to the 3:1 range or lower... This will also lower the loss in the cable, which could be noticable in a long run at 30MHz. (The center conductor heating, and the fact that Teflon can withstand much higher temp than polyethelene, is by far the predominant reason that Teflon-insulated coax can handle higher power than poly-insulated. And be very careful with power in foam-polyethelene insulated coax! The foam is a better thermal insulator, and poorer at supporting the weight of the inner conductor...)

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Date: 15 Jul 93 02:49:33 GMT  
From: news.service.uci.edu!orion.oac.uci.edu!easu348@network.UCSD.EDU  
Subject: Where is cheapest place to buy 1200 MHz module?  
To: info-hams@ucsd.edu

Does anyone have suggestions as to where the cheapest place to buy/mail order a 1200 MHz module for a Kenwood 741 would be? Or, does anyone have one for sale? Thanks much.

--

Andrew Parker | KD6TGM | easu348@orion.oac.uci.edu

-----

Date: Wed, 14 Jul 1993 17:47:50 GMT  
From: swrinde!cs.utexas.edu!csc.ti.com!tilde.csc.ti.com!m2.dseg.ti.com!ernest!cmptrc!mitch@network.UCSD.EDU  
To: info-hams@ucsd.edu

References <930707.180452.5j2.rusnews.w165w@garlic.sbs.com>,  
<21ijmi\$sra@lester.appstate.edu>, <930709.232157.0G5.rusnews.w165w@garlic.sbs.com>  
Subject : Re: callbook

Since I can't ftp to anybody, are any of the mailservers still up?

Thanks!

-----  
Date: 14 Jul 93 10:44:52 -0600  
From: dog.ee.lbl.gov!overload.lbl.gov!agate!howland.reston.ans.net!  
sol.ctr.columbia.edu!hamblin.math.byu.edu!yvax.byu.edu!phycs1.byu.edu!  
peterson@network.UCSD.EDU  
To: info-hams@ucsd.edu

References <2347@indep1.UUCP>, <21ucvb\$c3u@gopher.cs.uofs.edu>,  
<wb9omc.742588681@dynamo.ecn.purdue.edu>yu.edu  
Subject : Re: Communities that unduly restrict Amateur Radio operations

In article <wb9omc.742588681@dynamo.ecn.purdue.edu>, wb9omc@dynamo.ecn.purdue.edu  
(Duane P Mantick) writes:

> bill@cs.uofs.edu (Bill Gunshannon) writes:

>

>>And if you honestly believe that you (or any amateur operator) will be  
>>missed for even a second, you are extremely naive. The general public  
>>doesn't know who you are, what you are, or what you do. They get along  
>>just fine now without you and their lives are no tlikely to end cause  
>>you won't use your radio to help them. They can't miss what they don't  
>>know exists.

>

>>bill KB3YV

>

> Bill, with all due respect, it is precisely this kind of attitude  
> that isn't going to help one bit.

>

> "The general Public doesn't know who you are, what you are or what you do."

>

> That is nobodies fault but our own, and we can change that by getting  
> ourselves some positive publicity. It just isn't that hard to do!  
> We need to hit the newspapers every opportunity we get.

>

I would just like to pass on some experiences with ARES here in Utah County,  
Utah. I have only had my license since March and have been involved with  
ARES literally since the day it came. ARES is shepherded somewhat by the  
County Sherrif's office here under a group known as the SCAT team (Sherrif's  
Communications Auxiliary). They have established emergency communications

centers in almost every public agency in the county. And after the recent Response '93 simulated earthquake exercise there were 3 or 4 agencies that asked that a center be established at their centers. The county has asked ARES to establish a 911 system that goes by radio directly to the central county dispatcher since the telephone-based system gets overloaded with almost any widespread problem. They have selected one of the 3 repeaters operated by ARES and SCAT and intend to widely announce this to the entire ham community in both Utah and Salt Lake Counties in August (Salt Lake County is included because this repeater is at about 8000' and has fairly wide coverage). Amateur radio has a VERY good reputation in this area. In fact, at a recent ARES meeting the Uinta National Forest fire supervisor indicated that after a recent forest fire (ARES provides a lot of communication support on forest fires here) the crisis management team that was brought in to handle the fire wanted to take two groups of people with them when they left - the SCAT and ARES hams and the Relief Society (the Relief Society is the women's organization of the LDS church and they caused the feds no end of headaches when they showed up at the fire with a LOT of food to feed the fire fighters and the feds couldn't figure out how to handle donated food).

I really agree with those who advocate getting involved to show the community that hams have some value. I am riding the coattails of a group that has been developed over many years but the communities here are very ham friendly - especially the local government agencies. They have seen the hams provide service that has been very valuable and are not about to hinder that resource. The fraction of hams that are actually involved is unfortunately fairly low (250 on the ARES roster in an area where the monthly testing session is passing about 25-50 Techs/month) but those who are involved are keeping the governments on our side.

Bryan Peterson, KB7TEW  
Peterson@physc1.byu.edu

-----  
Date: Wed, 14 Jul 1993 20:43:48 GMT  
From: mentor.cc.purdue.edu!sage.cc.purdue.edu!blumb@purdue.edu  
To: info-hams@ucsd.edu

References <1993Jul14.123531.232@rsg1.er.usgs.gov>, <22106t\$rho@panix.com>,  
<1993Jul14.154248.19099@en.ecn.purdue.edu>p  
Subject : Re: America's Technology Store (was: new Radio Shack HT)

In article <1993Jul14.154248.19099@en.ecn.purdue.edu> n9ljx@en.ecn.purdue.edu  
(Scott A Stambaugh) writes:  
>Unfortunately they are a little more aggressive around here. I recently went  
>in looking for a replacement telescopic whip for an old Bearcat xtal scanner.  
>The salespuppy told me they didn't carry that style and that what I really

>needed to do was buy a new scanner! What a deal..try to make a \$300 sale from  
>someone who is looking to spend \$1.50!

>--scott

>--

>Scott Stambaugh - N9LJX                   internet: n9ljx@ecn.purdue.edu  
>Operations Supervisor, ADPC           phone:     317 494 7946  
>Purdue University  
>West Lafayette, IN 47907-1061

Funny....

Just before I moved down here two weeks ago, I went into my hometown radio shack to buy a scanner... came away with a PR046 on sidewalk sale discount.

As I was LEAVING the store, after parting with over a hundred \$\$, -then- they tell me about IC 35-44-3-12, the Indiana law regulating scanners....

Oh well. Back to studying for my license. :-)

--

Bill Blum blumb@sage.cc.purdue.edu     Purdue University, W. Lafayette, IN  
"Wherever you go....there's always a damn Buckaroo Banzai quote..."

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End of Info-Hams Digest V93 #856

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